

AgGeCu

L3 ANSWER 1 OF 2 CA COPYRIGHT 1998 ACS
 AN 125:202420 CA
 TI Silver-copper alloys with deoxidizer for preventing firescale defects in casting or hot working
 IN Eccles, Anthony Philip
 PA Apecs Investment Castings Pty. Ltd., Australia
 SO PCT Int. Appl., 13 pp.
 CODEN: PIXXD2
 PI WO 9622400 A1 19960725
 DS W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI
 RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, DE, DK, ES, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE
 AI WO 96-AU19 19960116
 PRAI AU 95-606 19950118
 DT Patent
 LA English
 AB The Ag alloys of sterling type contain Cu 2.5-19.5, Si (as deoxidizer) 0.02-2, and Ge (to improve work hardening) 0.01-3.3%, optionally with B 0-2, In 0-1.5, and/or Sn 0.0-6.0%. Molten Ag can be alloyed by adding a master alloy contg. Cu 43.0-99.85, Si 0.1-44.3, and Ge 0.05-56.7%. The Ag alloys can be cast and hot worked without formation of firescale defects on the surface, and can have increased Cu content compared with <8% in the sterling alloys. The typical Ag alloy contains Cu 7.0, Si 0.2, and Ge 0.3%, and shows Vickers microhardness of 86.9-92.4 on cast ingot, 170-181 after rolling with 75% redn., and 73.6 after annealing. The alloys are suitable for sterling jewelry, or for elec. contacts with increased hardness.

L3 ANSWER 2 OF 2 CA COPYRIGHT 1998 ACS
 AN 123:176751 CA
 TI Silver alloys of sterling type for jewelry and coinage with work hardening and resistance to oxidation
 IN Eccles, Anthony Philip
 PA Apecs Investment Castings Pty. Ltd., Australia
 SO PCT Int. Appl., 15 pp.
 CODEN: PIXXD2
 PI WO 9514112 A1 19950526
 DS W: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, ES, FI, GB, GE, HU, JP, KE, KG, KP, KR, KZ, LK, LU, LV, MD, MG, MN, MW, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SI, SK, TJ, TT, UA, US, UZ, VN
 RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, DE, DK, ES, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG
 AI WO 94-AU351 19940627
 PRAI AU 93-2432 19931115
 DT Patent
 LA English
 AB The high-Ag alloys resistant to fire-scale defects and oxide film formation contain Ag 80-99.0, Cu 0.5-6, Zn and/or Si (for fire-scale prevention) 0.02-7, and Ge 0.01-2.5%, preferably with the Ag at .gtoreq.92.5% for the sterling range, and optionally with minor B, In, and/or Sn. The Ag alloys can be manufd. using the master alloys

contg. Cu 2.5-99.85, Zn and/or Si 0.1-35, and Ge 0.05-12.5%. Cast Ag alloy contg. Ag 97.5, Cu 2.35, Zn 2.82, Si 0.19, Fe 1.9, In 0.23, and B 0.01% showed vickers microhardness of 70.2 increasing to 146 after cold working with 50% redn., and decreasing to 59.5 after annealing.

AgGeCu

L1 FILE 'REGISTRY' ENTERED AT 15:01:01 ON 24 SEP 1998
7 S (AG>=86)/MAC AND (.2<=SI<=2)/MAC AND GE/MAC AND (.5<=CU

L2 FILE 'REGISTRY' ENTERED AT 15:01:42 ON 24 SEP 1998
7 S L1

L3 FILE 'CA' ENTERED AT 15:02:04 ON 24 SEP 1998
2 S L2

lower
GB 2,255,349

L2 ANSWER 1 OF 6 WPIDS COPYRIGHT 1997 DERWENT INFORMATION LTD
 AN 92-320122 [39] WPIDS
 DNN N92-244898 DNC C92-142311
 TI Copper alloy for electronic parts - contg. zinc, silicon, with tin and/or nickel and at least one of phosphorus, aluminium, iron, lead, arsenic, antimony etc..
 DC L03 M26 V04 X12
 PA (NIHA) NIPPON MINING CO
 CYC 1
 PI JP 04224645 A 920813 (9239)* 5 pp C22C009-04 <--
 ADT JP 04224645 A JP 90-414088 901226
 PRAI JP 90-414088 901226
 IC ICM C22C009-04
 ICS H01R013-03
 AB JP04224645 A UPAB: 931006
 Cu alloy including Zn 5-25%, Si 0.01-0.30%, additional (1) Sn 0.05-3.00% and/or Ni 0.05-3.00% by 0.05-6% in total and/or (2) at least one of P, Al, Fe, Pb, As, Sb, B, Co, Cr, Mn, Te, In, Ti, Zr, Hf, Be, Mg, Ag, Cd and Ge 0.001-2% in total, having crystal grain size less than 15 microns.
 0/0
 FS CPI EPI
 FA AB
 MC CPI: L03-A01A; L03-J; M26-B03; M26-B03N; M26-B03S; M26-B03T; M26-B03Z
 EPI: V04-D01; X12-D01A

Cu alloy a la master alloy

L2 ANSWER 2 OF 6 WPIDS COPYRIGHT 1997 DERWENT INFORMATION LTD
 AN 91-762404 [36] WPIDS
 DNC C91-113860
 TI Prodn. of low strength copper alloy of fine grain size - by cold rolling specified amt. of metal, finish annealing then further cold rolling.
 DC M26
 PA (NIHA) NIPPON MINING CO
 CYC 1
 PI ~~JP 03170646 A~~ 910724 (9136)* <--
 ADT JP 03170646 A JP 89-306544 891128
 PRAI JP 89-306544 891128
 IC C22C009-04; C22F001-08
 AB JP03170646 A UPAB: 930928
 Cu-Zn alloy including at least one of Pb, Fe, Sn, Al, Mn, Ni, P, As, Te, Cr, Co, Zr, V, Be, Cd, Si, B, In, Ti, Mg, Hf and Ge 0.005 - 2.0% in total, is cold rolled by more than 75%, finish annealed to give grain size of less than 0.015 mm, and further cold rolled by 1 - 15% to improve soldability.
 0/2
 FS CPI
 FA AB
 MC CPI: M26-B03; M26-B03Z; M29-B; M29-C

L2 ANSWER 3 OF 6 WPIDS COPYRIGHT 1997 DERWENT INFORMATION LTD
 AN 91-152508 [21] WPIDS
 DNC C91-065969
 TI Copper alloy prodn. for radiator plate - by cold-rolling copper alloy, finish annealing and cold-rolling to specific grain size, etc..
 DC M21 M26 M29
 PA (NIHA) NIPPON MINING CO

TI Electric contact alloys
PA Nippon Telegraph and Telephone Public Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
PI JP 56119747 A2 810919 Showa
AI JP 80-21576 800225
DT Patent
LA Japanese

AB The Ag alloys contain Si and/or Ge 1-17, and other optional metal addns. and are useful in communication sealed switches. Thus, Ag-5%Si [80755-40-4] was cast, rolled at 600.degree., cold rolled from 1 mm to 200 .mu., internally oxidized 30 h in 9 atm O at 500.degree., welded to an Fe-Ni alloy spring, worked to a 20 .mu.-thick cladding, and heat treated. The elec. resistance was 6 m.OMEGA. which increased to 7.5 after 8 .times. 107 switching operations. The alloy had high H2S, welding, and wear resistance.

L5 ANSWER 1 OF 4 CA COPYRIGHT 1997 ACS
AN 117:224844 CA

TI Copper alloy for electronic device
IN Tsuji, Masahiro; Toe, Tamio
PA Nippon Mining Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF

PI JP 04224645 A2 920813 Heisei
AI JP 90-414088 901226
DT Patent
LA Japanese

AB The alloy contains Zn 5-25, Si 0.01-3. The alloy may contain Sn 0.05-3 and/or Ni 0.05-3 (a). The alloy may contain P, Al, Fe, Pb, As, Sb, B, Co, Cr, Mn, Te, In, Ti, Zr, Hf, Be, Mg, Ag, Cd, and/or Ge 0.001-2 wt.% (b). The alloy may contain (a) and (b). The alloy showed good tensile strength and soldering.

L5 ANSWER 2 OF 4 CA COPYRIGHT 1997 ACS
AN 117:54091 CA

TI Manufacture of fine-grained copper alloy sheet having good formability

IN Toe, Tamio
PA Nippon Mining Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF

PI JP 03170646 A2 910724 Heisei
AI JP 89-306544 891128
DT Patent
LA Japanese

AB The fine-grained sheets having low strength and good formability (esp. for automotive radiators) are manufd. from the Cu alloys contg. 25-45 Zn and 0.005-2.0% Pb, Fe, Sn, Al, Mn, Ni, P, As, Te, Cr, Co, Zr, V, Be, Cd, Si, B, In, Ti, Mg, Hf, and/or Ge. A cold-rolled sheet is annealed for the grain size <0.015 mm. Thus, the annealed Cu-28.9% Zn alloy sheet with the grain size of 0.003 mm showed elongation of 38.5%, deep drawability with Erichsen value of 13.4 mm, and good brazing properties.

L5 ANSWER 3 OF 4 CA COPYRIGHT 1997 ACS

AN 116:25997 CA

TI Copper alloy for radiator plate manufacture
IN Toe, Tamio
PA Nippon Mining Co., Ltd., Japan

18/637802

TI.. Electric contact alloys
PA Nippon Telegraph and Telephone Public Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
PI **JP 56119747 A2** 810919 Showa
AI JP 80-21576 800225
DT Patent
LA Japanese
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AI JP 90-414088 901226

DT Patent

LA Japanese

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CODEN: JKXXAF

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AI JP 89-306544 891128

DT Patent

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TI Copper alloy for radiator plate manufacture

IN Toe, Tamio

PA Nippon Mining Co., Ltd., Japan

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PA Nippon Telegraph and Telephone Public Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
PI **JP 56119747 A2** 810919 Showa
AI JP 80-21576 800225
DT Patent
LA Japanese
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CODEN: JKXXAF

PI **JP 03170646 A2** 910724 Heisei

AI JP 89-306544 891128

DT Patent

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L5 ANSWER 3 OF 4 CA COPYRIGHT 1997 ACS

AN 116:25997 CA

TI Copper alloy for radiator plate manufacture

IN Toe, Tamio

PA Nippon Mining Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF

PI JP 03087325 A2 910412 Heisei

AI JP 89-221523 890830

DT Patent

LA Japanese

AB The Cu alloy contg. Zn 1-5, Ni 0.1-5, and/or 0.01-2% Si, an optional Al, Fe, Pb, As, Sb, B, Co, Cr, Mn, Te, In, Ti, Zr, Hf, Be, Mg, Ag, Cd, and/or Ge 0.001-2.0% is cold rolled, finish annealed, and cold rolled again for 3-20% draft to give a high-strength plate strip resistant to stress-corrosion cracking and having excellent solderability.

L5 ANSWER 4 OF 4 CA COPYRIGHT 1997 ACS

AN 103:145995 CA

TI Corrosion-resistant copper alloys

PA Nippon Mining Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

PI JP 60082635 A2 850510 Showa

AI JP 83-189342 831012

DT Patent

LA Japanese

AB The Cu alloys contain Zn 10-40, Sn 0.05-1.0, Al 0.05-1.0, and .gtoreq.1 B 0.005-0.1, Ni, Si, Co, Cr, Mn, Te, In, Ti, Zr, Hf, Be, Mg, Ag, Cd, and Ge 0.005-1.0 each and totalling 0.005-2.0%. The alloys are finally annealed to give a grain size of .ltoreq.0.015 mm or further cold rolled 3-20%. The alloys are useful for automobile heat-exchanger parts. Thus, a Cu alloy [98581-58-9] ingot contg. Zn 28, Sn 0.1, Al 0.3, and B 0.01% was hot rolled, cold rolled repeatedly with intermediate annealing to 1 mm thick, annealed, and W-inert gas TIG-welded. The tensile strength was 44 kg/mm², elongation 41%, dezincification depth 112 .mu. at the weld bond when immersed 500 h in an aq. soln. contg. Na₂CO₃ 1.3, Na₂SO₄ 1.5, and NaCl 1.6 g/L at 88.degree. and aerated at 100 mL/min. Corresponding values for a conventional 66:34 brass with a grain size of 0.02 mm were 35 kg/mm², 44%, and 720 .mu..

SO Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF
PI JP 03087325 A2 910412 Heisei
AI JP 89-221523 890830
DT Patent
LA Japanese
AB The Cu alloy contg. Zn 1-5, Ni 0.1-5, and/or 0.01-2% Si, an optional Al, Fe, Pb, As, Sb, B, Co, Cr, Mn, Te, In, Ti, Zr, Hf, Be, Mg, Ag, Cd, and/or Ge 0.001-2.0% is cold rolled, finish annealed, and cold rolled again for 3-20% draft to give a high-strength plate strip resistant to stress-corrosion cracking and having excellent solderability.

L5 ANSWER 4 OF 4 CA COPYRIGHT 1997 ACS

AN 103:145995 CA

TI Corrosion-resistant copper alloys

PA Nippon Mining Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

PI JP 60082635 A2 850510 Showa

AI JP 83-189342 831012

DT Patent

LA Japanese

AB The Cu alloys contain Zn 10-40, Sn 0.05-1.0, Al 0.05-1.0, and .gtoreq.1 B 0.005-0.1, Ni, Si, Co, Cr, Mn, Te, In, Ti, Zr, Hf, Be, Mg, Ag, Cd, and Ge 0.005-1.0 each and totalling 0.005-2.0%. The alloys are finally annealed to give a grain size of .ltoreq.0.015 mm or further cold rolled 3-20%. The alloys are useful for automobile heat-exchanger parts. Thus, a Cu alloy [98581-58-9] ingot contg. Zn 28, Sn 0.1, Al 0.3, and B 0.01% was hot rolled, cold rolled repeatedly with intermediate annealing to 1 mm thick, annealed, and W-inert gas TIG-welded. The tensile strength was 44 kg/mm², elongation 41%, dezincification depth 112 .mu. at the weld bond when immersed 500 h in an aq. soln. contg. Na₂CO₃ 1.3, Na₂SO₄ 1.5, and NaCl 1.6 g/L at 88.degree. and aerated at 100 mL/min. Corresponding values for a conventional 66:34 brass with a grain size of 0.02 mm were 35 kg/mm², 44%, and 720 .mu..

L4 ANSWER 1 OF 4 CA COPYRIGHT 1997 ACS
AN 105:64868 CA
TI Sliding contact materials
IN Fujishima, Susumu
PA Tanaka Noble Metal Industrial Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 3 pp.
CODEN: JKXXAF

PI JP 61034147 A2 860218 Showa
AI JP 84-154858 840725

DT Patent

LA Japanese

AB Cu 3-12, Cd 0.1-5, Mn 1-7, and Si, Bi, and/or Ge 0.5-5% are added to Ag to give sliding contact materials. A part of the added elements may be substituted by 0.01-0.5% Fe-group elements. The contact app. has low contact resistance and shows only little abrasion loss. Thus, a 2-mm contact part of Ag alloy contg. Cu 6, Cd 2, Mn 4, Bi 2, and Ni 0.2% was formed on a commutator (diam. 12 mm) of a motor. This was slide contacted with a Au-Ag-Cu-Pt alloy brush for 7 h at d.c. 12 V, 0.6 A, 1000 rpm, and 100 g load to show abrasion loss 5.1 mg and contact resistance 16-341 m.OMEGA., compared with 12.4 mg and 18-453 m.OMEGA. for Ag-11% Cd alloy.

L4 ANSWER 2 OF 4 CA COPYRIGHT 1997 ACS
AN 105:28411 CA
TI Silver alloys for sliding electric contacts
IN Fujishima, Susumu
PA Tanaka Noble Metal Industrial Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 3 pp.
CODEN: JKXXAF

PI JP 61034144 A2 860218 Showa
AI JP 84-154855 840725

DT Patent

LA Japanese

AB The Ag alloys contain Cu 3-12, Cd 0.1-5, Sb 1-7, and Si, Bi, Ge, and/or Ga 0.5-5%, optionally with 0.01-0.5% Fe-group metals. Elec. contact app. has low contact resistance and shows only minor abrasion loss. Thus, Ag alloy contg. Cu 6, Cd 2, Sb 4, Bi 1, and Ni 0.2% was applied as 2-mm thick strip on commutator (diam. 12 mm) of elec. motor. After sliding contact with Au-Ag-Cu-Pt alloy brush for 7 h at d.c. 12 V, 0.6 A, 1000 rpm, and 100 g load, abrasion loss of the alloy was 5.4 mg and contact resistance 17-362 m.OMEGA., compared with 12.4 mg and 18-453 m.OMEGA. for Ag-11% Cd alloy.

L4 ANSWER 3 OF 4 CA COPYRIGHT 1997 ACS
AN 98:130967 CA
TI Silver alloys for brazing
PA Tokuriki Honten Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF

PI JP 57187195 A2 821117 Showa
AI JP 81-72005 810513

DT Patent

LA Japanese

AB The brazing alloys for smooth surface finish contain Ag 50-95 and Cu 5-50% with .gtoreq.1 Si, Pb, and Mg 0.05-0.5, and optionally .gtoreq.1 Ge, Mn, and Ni 0.005-1%. Thus, the alloy [85006-83-3] contg. Ag 85, Cu 14.85, Si 0.1, and Mg 0.05% was applied on Cu, Ni, SUS 304 [11109-50-5], and C steel. Smooth surface finish was achieved.

L4 ANSWER 4 OF 4 CA COPYRIGHT 1997 ACS
AN 96:90304 CA

L4 ANSWER 1 OF 4 CA COPYRIGHT 1997 ACS
AN 105:64868 CA
TI Sliding contact materials
IN Fujishima, Susumu
PA Tanaka Noble Metal Industrial Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 3 pp.
CODEN: JKXXAF

PI **JP 61034147 A2** 860218 Showa
AI JP 84-154858 840725

DT Patent

LA Japanese

AB Cu 3-12, Cd 0.1-5, Mn 1-7, and Si, Bi, and/or Ge 0.5-5% are added to Ag to give sliding contact materials. A part of the added elements may be substituted by 0.01-0.5% Fe-group elements. The contact app. has low contact resistance and shows only little abrasion loss. Thus, a 2-mm contact part of Ag alloy contg. Cu 6, Cd 2, Mn 4, Bi 2, and Ni 0.2% was formed on a commutator (diam. 12 mm) of a motor. This was slide contacted with a Au-Ag-Cu-Pt alloy brush for 7 h at d.c. 12 V, 0.6 A, 1000 rpm, and 100 g load to show abrasion loss 5.1 mg and contact resistance 16-341 m.OMEGA., compared with 12.4 mg and 18-453 m.OMEGA. for Ag-11% Cd alloy.

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PA Tokuriki Honten Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF

PI **JP 57187195 A2** 821117 Showa
AI JP 81-72005 810513

DT Patent

LA Japanese

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AI JP 84-154858 840725
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AI JP 84-154855 840725
DT Patent

LA Japanese

AB The Ag alloys contain Cu 3-12, Cd 0.1-5, Sb 1-7, and Si, Bi, Ge, and/or Ga 0.5-5%, optionally with 0.01-0.5% Fe-group metals. Elec. contact app. has low contact resistance and shows only minor abrasion loss. Thus, Ag alloy contg. Cu 6, Cd 2, Sb 4, Bi 1, and Ni 0.2% was applied as 2-mm thick strip on commutator (diam. 12 mm) of elec. motor. After sliding contact with Au-Ag-Cu-Pt alloy brush for 7 h at d.c. 12 V, 0.6 A, 1000 rpm, and 100 g load, abrasion loss of the alloy was 5.4 mg and contact resistance 17-362 m.OMEGA., compared with 12.4 mg and 18-453 m.OMEGA. for Ag-11% Cd alloy.

L4 ANSWER 3 OF 4 CA COPYRIGHT 1997 ACS
AN 98:130967 CA
TI Silver alloys for brazing
PA Tokuriki Honten Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF

PI JP 57187195 A2 821117 Showa
AI JP 81-72005 810513
DT Patent

LA Japanese

AB The brazing alloys for smooth surface finish contain Ag 50-95 and Cu 5-50% with .gtoreq.1 Si, Pb, and Mg 0.05-0.5, and optionally .gtoreq.1 Ge, Mn, and Ni 0.005-1%. Thus, the alloy [85006-83-3] contg. Ag 85, Cu 14.85, Si 0.1, and Mg 0.05% was applied on Cu, Ni, SUS 304 [11109-50-5], and C steel. Smooth surface finish was achieved.

L4 ANSWER 4 OF 4 CA COPYRIGHT 1997 ACS
AN 96:90304 CA

CYC 1

PI JP 03087325 A 910412 (9121)* <--

ADT JP 03087325 A JP 89-221523 890830

PRAI JP 89-221523 890830

AB JP03087325 A UPAB: 930928

Cu alloy having Zn of 1-5%, Ni of 0.1-5.0% and/or Si of 0.02-2.00%, additional one or more than two of Al, Fe, Pb, As, Sb, B, Co, Cr, Mn, Te, In, Ti, Zr, Hf, Be, Mg, Ag, Cd and Ge of 0.001-2.0%, in total, is cold rolled to intermediate plate thickness, finish annealed and cold-rolled by 3-20% with grain size of less than 15 micro m.

USE/ADVANTAGE - Copper alloy prodn. for radiator plate.

0/2

L6 ANSWER 5 OF 11 WPIDS COPYRIGHT 1997 DERWENT INFORMATION LTD

AN 86-086009 [13] WPIDS

DNN N86-062708 DNC C86-036793

TI Sliding contact material with improved wear resistance - comprises silver, copper, cadmium, manganese and silicon, bismuth and/or germanium.

DC L03 M26 V04 V06

PA (TANI) TANAKA KIKINZOKU KOGYO KK

CYC 1

PI JP 61034147 A 860218 (8613)* 3 pp <--

ADT JP 61034147 A JP 84-154858 840725

PRAI JP 84-154858 840725

AB JP61034147 A UPAB: 930922

The material comprises Ag to which by wt. 3-12% Cu, 0.1-5% Cd, 1-7%Mn, and 0.5-5% at least one of Si, Bi, and Ge are added Pref. ferrous gp. elements may be substd. for a part of the additive elements by 0.01-0.5 wt.%.

USE/ADVANTAGE - The material does not stick or weld together, and has excellent wear resistance so that the contact segments of small motors made of this material produce significantly less wear debris during operation resulting in no noise, low and stable contact resistance. Additive Mn increases resistance to welding, and to wear, and other additives of Si, Bi, and Ge improve wear resistance by the oxides acting as lubricant.

/1

L6 ANSWER 6 OF 11 WPIDS COPYRIGHT 1997 DERWENT INFORMATION LTD

AN 86-086006 [13] WPIDS

DNN N86-062705 DNC C86-036790

TI Wear resistant slide contact material for small motors - comprises silver contg. copper, cadmium, antimony and at least one of silicon, bismuth, germanium and gallium.

DC L03 M26 V04 V06

PA (TANI) TANAKA KIKINZOKU KOGYO KK

CYC 1

PI JP 61034144 A 860218 (8613)* 3 pp <--

ADT JP 61034144 A JP 84-154855 840725

PRAI JP 84-154855 840725

AB JP61034144 A UPAB: 930922

The slide contact material comprises Ag to which by wt.% 3-12 Cu, 0.1-5 Cd, 1-7 Sb, 0.5-5 at least one of Si, Bi, Ge and Ga are added. Ferrous gp. elements may be substd. for a part of the additive elements by 0.01-5 wt.%.

USE/ADVANTAGE - The material is hard to stick or weld together, and has good wear resistance so that the contact segments of small motors made of this material produce less wear debris during operation, resulting in no noise, low and stable contact resistance. Additive Sb increases resistance to welding and wear resistance, and

CYC 1
PI JP 03087325 A 910412 (9121)* <--
ADT JP 03087325 A JP 89-221523 890830
PRAI JP 89-221523 890830
AB JP03087325 A UPAB: 930928
Cu alloy having Zn of 1-5%, Ni of 0.1-5.0% and/or Si of 0.02-2.00%, additional one or more than two of Al, Fe, Pb, As, Sb, B, Co, Cr, Mn, Te, In, Ti, Zr, Hf, Be, Mg, Ag, Cd and Ge of 0.001-2.0%, in total, is cold rolled to intermediate plate thickness, finish annealed and cold-rolled by 3-20% with grain size of less than 15 micro m.

USE/ADVANTAGE - Copper alloy prodn. for radiator plate.

0/2

L6 ANSWER 5 OF 11 WPIDS COPYRIGHT 1997 DERWENT INFORMATION LTD
AN 86-086009 [13] WPIDS
DNN N86-062708 DNC C86-036793
TI Sliding contact material with improved wear resistance - comprises silver, copper, cadmium, manganese and silicon, bismuth and/or germanium.

DC L03 M26 V04 V06

PA (TANI) TANAKA KIKINZOKU KOGYO KK

CYC 1

PI JP 61034147 A 860218 (8613)* 3 pp <--

ADT JP 61034147 A JP 84-154858 840725

PRAI JP 84-154858 840725

AB JP61034147 A UPAB: 930922

The material comprises Ag to which by wt. 3-12% Cu, 0.1-5% Cd, 1-7%Mn, and 0.5-5% at least one of Si, Bi, and Ge are added Pref. ferrous gp. elements may be substd. for a part of the additive elements by 0.01-0.5 wt.%.

USE/ADVANTAGE - The material does not stick or weld together, and has excellent wear resistance so that the contact segments of small motors made of this material produce significantly less wear debris during operation resulting in no noise, low and stable contact resistance. Additive Mn increases resistance to welding, and to wear, and other additives of Si, Bi, and Ge improve wear resistance by the oxides acting as lubricant.

/1

L6 ANSWER 6 OF 11 WPIDS COPYRIGHT 1997 DERWENT INFORMATION LTD

AN 86-086006 [13] WPIDS

DNN N86-062705 DNC C86-036790

TI Wear resistant slide contact material for small motors - comprises silver contg. copper, cadmium, antimony and at least one of silicon, bismuth, germanium and gallium.

DC L03 M26 V04 V06

PA (TANI) TANAKA KIKINZOKU KOGYO KK

CYC 1

PI JP 61034144 A 860218 (8613)* 3 pp <--

ADT JP 61034144 A JP 84-154855 840725

PRAI JP 84-154855 840725

AB JP61034144 A UPAB: 930922

The slide contact material comprises Ag to which by wt.% 3-12 Cu, 0.1-5 Cd, 1-7 Sb, 0.5-5 at least one of Si, Bi, Ge and Ga are added. Ferrous gp. elements may be substd. for a part of the additive elements by 0.01-5 wt.%.

USE/ADVANTAGE - The material is hard to stick or weld together, and has good wear resistance so that the contact segments of small motors made of this material produce less wear debris during operation, resulting in no noise, low and stable contact resistance. Additive Sb increases resistance to welding and wear resistance, and

CYC 1
PI JP 03087325 A 910412 (9121)* <--
ADT JP 03087325 A JP 89-221523 890830
PRAI JP 89-221523 890830
AB JP03087325 A UPAB: 930928
Cu alloy having Zn of 1-5%, Ni of 0.1-5.0% and/or Si of 0.02-2.00%, additional one or more than two of Al, Fe, Pb, As, Sb, B, Co, Cr, Mn, Te, In, Ti, Zr, Hf, Be, Mg, Ag, Cd and Ge of 0.001-2.0%, in total, is cold rolled to intermediate plate thickness, finish annealed and cold-rolled by 3-20% with grain size of less than 15 micro m.
USE/ADVANTAGE - Copper alloy prodn. for radiator plate.
0/2

L6 ANSWER 5 OF 11 WPIDS COPYRIGHT 1997 DERWENT INFORMATION LTD
AN 86-086009 [13] WPIDS
DNN N86-062708 DNC C86-036793
TI Sliding contact material with improved wear resistance - comprises silver, copper, cadmium, manganese and silicon, bismuth and/or germanium.
DC L03 M26 V04 V06
PA (TANI) TANAKA KIKINZOKU KOGYO KK
CYC 1
PI JP 61034147 A 860218 (8613)* 3 pp <--
ADT JP 61034147 A JP 84-154858 840725
PRAI JP 84-154858 840725
AB JP61034147 A UPAB: 930922
The material comprises Ag to which by wt. 3-12% Cu, 0.1-5% Cd, 1-7%Mn, and 0.5-5% at least one of Si, Bi, and Ge are added Pref. ferrous gp. elements may be substd. for a part of the additive elements by 0.01-0.5 wt.%.
USE/ADVANTAGE - The material does not stick or weld together, and has excellent wear resistance so that the contact segments of small motors made of this material produce significantly less wear debris during operation resulting in no noise, low and stable contact resistance. Additive Mn increases resistance to welding, and to wear, and other additives of Si, Bi, and Ge improve wear resistance by the oxides acting as lubricant.
/1

L6 ANSWER 6 OF 11 WPIDS COPYRIGHT 1997 DERWENT INFORMATION LTD
AN 86-086006 [13] WPIDS
DNN N86-062705 DNC C86-036790
TI Wear resistant slide contact material for small motors - comprises silver contg. copper, cadmium, antimony and at least one of silicon, bismuth, germanium and gallium.
DC L03 M26 V04 V06
PA (TANI) TANAKA KIKINZOKU KOGYO KK
CYC 1
PI JP 61034144 A 860218 (8613)* 3 pp <--
ADT JP 61034144 A JP 84-154855 840725
PRAI JP 84-154855 840725
AB JP61034144 A UPAB: 930922
The slide contact material comprises Ag to which by wt.% 3-12 Cu, 0.1-5 Cd, 1-7 Sb, 0.5-5 at least one of Si, Bi, Ge and Ga are added. Ferrous gp. elements may be substd. for a part of the additive elements by 0.01-5 wt.%.
USE/ADVANTAGE - The material is hard to stick or weld together, and has good wear resistance so that the contact segments of small motors made of this material produce less wear debris during operation, resulting in no noise, low and stable contact resistance. Additive Sb increases resistance to welding and wear resistance, and

antimony or gallium, and can replace costly silver alloys.

DC L03 M26 P53 V03 X13
IN RAUTER, G; SCHULTZ, L; WILLHELM, M
PA (SIEI) SIEMENS AG

CYC 14

PI EP 64181 A 821110 (8246)* DE 15 pp <--
R: AT DE FR GB IT NL SE

DE 3116680 A 821118 (8247)

JP 57181348 A 821108 (8250)

NO 8201339 A 821122 (8250)

FI 8200583 A 821231 (8307)

PT 74797 A 830118 (8310)

DK 8201843 A 830314 (8317)

ZA 8202858 A 830124 (8317)

EP 64181 B 850213 (8507) DE <--

R: AT BE FR GB IT NL SE

DE 3262286 G 850328 (8514)

ADT EP 64181 A EP 82-103118 820413

PRAI DE 81-3116680 810427

AB EP 64181 A UPAB: 930915

The alloy is used esp. for low voltage switches, and switchgear used in electric wiring systems, and contains Cu with at least one of the elements Sb, Ga, Ge, which are present in atomic percent in the amts. 0.01-7% Sb; 0.5-20% Ga; and 0.5-10% Ge. The alloy may also contain (in atomic %) 0.1-2% Cd; 0.01-0.8% Cr; 0.1-1.8% Co; 0.1-3% Pd; and/or 0.5-10% Si, the amts. of these additional elements should not exceed the amt. of Sb, Ga, and/or Ge present. The esp. pref. alloy contains 3-7 esp. 5% Ge, and is made by melting in an inert gas, then heat-treated at 600-950 deg.C. Alternatively, the alloys may be made by powder metallurgy, the compacts being heated to cause diffusion in the solid state.

The alloy can replace expensive Ag contact alloys.

L6 ANSWER 10 OF 11 WPIDS COPYRIGHT 1997 DERWENT INFORMATION LTD.
AN 81-80793D [44] WPIDS

TI Silver based electrical contact - is eutectic alloy contg. silicon and/or germanium, pref. together with other metals.

DC L03 M26

PA (NITE) NIPPON TELEGRAPH & TELEPHONE CORP

CYC 1

PI JP 56119747 A 810919 (8144)* 8 pp <--

PRAI JP 80-21576 800225

AB JP56119747 A UPAB: 930915

An electric contact material is prepared by internal oxidn. in a high pressure O2-contg. atmosphere of a eutectic Ag alloy containing Si and/or Ge 1-17 atom %. The Ag alloy may contain one or more of Au, Pt, Pd, Rh, Ru, Os and Ir 1-10 atom % in total. The Ag alloy may also contain one or more of Re, Ti, V, , Ta, Mo, Nb and Zr 1-5 atom % in total. The Ag alloy may also contain one or more of Fe, Co, Ni and Cu 1-5 atom % in total. The Ag alloy is hot or cold worked, and then heated to a temp. from 250 deg.C to the eutectic point in a high pressure O2-contg. atmosphere.

The electric contact material shows extremely stable contact resistance properties under conditions of low contact pressure and slight load for communication use, and also shows excellent resistance to fusion, corrosion and abrasion caused by spark discharge. The heating in the high pressure O2-contg. atmosphere assures complete internal oxidn. of the Ag alloy, so that the internally oxidised alloy does not deteriorate in properties even after being pplastically deformed.

L6 ANSWER 11 OF 11 WPIDS COPYRIGHT 1997 DERWENT INFORMATION LTD

antimony or gallium, and can replace costly silver alloys.

DC L03 M26 P53 V03 X13
IN RAUTER, G; SCHULTZ, L; WILLHELM, M
PA (SIEI) SIEMENS AG

CYC 14

PI EP 64181 A 821110 (8246)* DE 15 pp <--

R: AT DE FR GB IT NL SE

DE 3116680 A 821118 (8247)

JP 57181348 A 821108 (8250)

NO 8201339 A 821122 (8250)

FI 8200583 A 821231 (8307)

PT 74797 A 830118 (8310)

DK 8201843 A 830314 (8317)

ZA 8202858 A 830124 (8317)

EP 64181 B 850213 (8507) DE <--

R: AT BE FR GB IT NL SE

DE 3262286 G 850328 (8514)

ADT EP 64181 A EP 82-103118 820413

PRAI DE 81-3116680 810427

AB EP 64181 A UPAB: 930915

The alloy is used esp. for low voltage switches, and switchgear used in electric wiring systems, and contains Cu with at least one of the elements Sb, Ga, Ge, which are present in atomic percent in the amts. 0.01-7% Sb; 0.5-20% Ga; and 0.5-10% Ge. The alloy may also contain (in atomic %) 0.1-2% Cd; 0.01-0.8% Cr; 0.1-1.8% Co; 0.1-3% Pd; and/or 0.5-10% Si, the amts. of these additional elements should not exceed the amt. of Sb, Ga, and/or Ge present. The esp. pref. alloy contains 3-7 esp. 5% Ge, and is made by melting in an inert gas, then heat-treated at 600-950 deg.C. Alternatively, the alloys may be made by powder metallurgy, the compacts being heated to cause diffusion in the solid state.

The alloy can replace expensive Ag contact alloys.

L6 ANSWER 10 OF 11 WPIDS COPYRIGHT 1997 DERWENT INFORMATION LTD

AN 81-80793D [44] WPIDS

TI Silver based electrical contact - is eutectic alloy contg. silicon and/or germanium, pref. together with other metals.

DC L03 M26

PA (NITE) NIPPON TELEGRAPH & TELEPHONE CORP

CYC 1

PI JP 56119747 A 810919 (8144)* 8 pp <--

PRAI JP 80-21576 800225

AB JP56119747 A UPAB: 930915

An electric contact material is prepared by internal oxidn. in a high pressure O2-contg. atmosphere of a eutectic Ag alloy containing Si and/or Ge 1-17 atom %. The Ag alloy may contain one or more of Au, Pt, Pd, Rh, Ru, Os and Ir 1-10 atom % in total. The Ag alloy may also contain one or more of Re, Ti, V, , Ta, Mo, Nb and Zr 1-5 atom % in total. The Ag alloy may also contain one or more of Fe, Co, Ni and Cu 1-5 atom % in total. The Ag alloy is hot or cold worked, and then heated to a temp. from 250 deg.C to the eutectic point in a high pressure O2-contg. atmosphere.

The electric contact material shows extremely stable contact resistance properties under conditions of low contact pressure and slight load for communication use, and also shows excellent resistance to fusion, corrosion and abrasion caused by spark discharge. The heating in the high pressure O2-contg. atmosphere assures complete internal oxidn. of the Ag alloy, so that the internally oxidised alloy does not deteriorate in properties even after being plastically deformed.

L6 ANSWER 11 OF 11 WPIDS COPYRIGHT 1997 DERWENT INFORMATION LTD

L6 ANSWER 1 OF 11 WPIDS COPYRIGHT 1997 DERWENT INFORMATION LTD
AN 93-012571 [02] WPIDS
TI Surround circuit for delaying digital signal by utilising RAM -
reduces delayed RAM capacity necessary for surround process, thus
reduces digital signal process and delayed RAM up to its formable
level on same chip NoAbstract.
DC T01 U22 W04
PA (NIDE) NEC CORP
CYC 1
PI JP 04339500 A 921126 (9302)* 4 pp <--
ADT JP 04339500 A JP 91-111364 910516
PRAI JP 91-111364 910516

L6 ANSWER 2 OF 11 WPIDS COPYRIGHT 1997 DERWENT INFORMATION LTD
AN 92-320122 [39] WPIDS
DNN N92-244898 DNC C92-142311
TI Copper alloy for electronic parts - contg. zinc, silicon, with tin
and/or nickel and at least one of phosphorus, aluminium, iron,
lead, arsenic, antimony etc..
DC L03 M26 V04 X12
PA (NIHA) NIPPON MINING CO
CYC 1
PI JP 04224645 A 920813 (9239)* 5 pp <--
ADT JP 04224645 A JP 90-414088 901226
PRAI JP 90-414088 901226
AB JP04224645 A UPAB: 931006
Cu alloy including Zn 5-25%, Si 0.01-0.30%, additional (1) Sn
0.05-3.00% and/or Ni 0.05-3.00% by 0.05-6% in total and/or (2) at
least one of P, Al, Fe, Pb, As, Sb, B, Co, Cr, Mn, Te, In, Ti, Zr,
Hf, Be, Mg, Ag, Cd and Ge 0.001-2% in total, having crystal grain
size less than 15 microns.
0/0

L6 ANSWER 3 OF 11 WPIDS COPYRIGHT 1997 DERWENT INFORMATION LTD
AN 91-262404 [36] WPIDS
DNC C91-113868
TI Prodn. of low strength copper alloy of fine grain size - by cold
rolling specified amt. of metal, finish annealing then further cold
rolling.
DC M26
PA (NIHA) NIPPON MINING CO
CYC 1
PI JP 03170646 A 910724 (9136)* <--
ADT JP 03170646 A JP 89-306544 891128
PRAI JP 89-306544 891128
AB JP03170646 A UPAB: 930928
Cu-Zn alloy including at least one of Pb, Fe, Sn, Al, Mn, Ni, P, As,
Te, Cr, Co, Zr, V, Be, Cd, Si, B, In, Ti, Mg, Hf and Ge 0.005 - 2.0%
in total, is cold rolled by more than 75%, finish annealed to give
grain size of less than 0.015 mm, and further cold rolled by 1 - 15%
to improve soldability.
0/2

L6 ANSWER 4 OF 11 WPIDS COPYRIGHT 1997 DERWENT INFORMATION LTD
AN 91-152508 [21] WPIDS
DNC C91-065969
TI Copper alloy prodn. for radiator plate - by cold-rolling copper
alloy, finish annealing and cold-rolling to specific grain size,
etc..
DC M21 M26 M29
PA (NIHA) NIPPON MINING CO

L3 ANSWER 1 OF 1 WPIDS COPYRIGHT 1997 DERWENT INFORMATION LTD
 AN 96-354554 [35] WPIDS
 DNC C96-111782
 TI Silver alloy compositions - contain copper , silicon and germanium,
 and exhibit lack of significant fire-scale formation during casting.
 DC M26
 IN ECCLES, A P
 PA (APEC-N) APECS INVESTMENT CASTINGS PTY LTD
 CYC 70
 PI WO 9622400 A1 960725 (9635)* EN 12 pp C22C005-06 <--
 RW: AT BE CH DE DK EA ES FR GB GR IE IT KE LS LU MC MW NL OA PT
 SD SE SZ UG
 W: AL AM AT AU AZ BB BG BR BY CA CH CN CZ DE DK EE ES FI GB GE
 HU IS JP KE KG KP KR KZ LK LR LS LT LU LV MD MG MK MN MW MX
 NO NZ PL PT RO RU SD SE SG SI SK TJ TM TR TT UA UG US UZ VN
 AU 9644273 A 960807 (9646) C22C005-06
 ADT WO 9622400 A1 WO 96-AU19 960116; AU 9644273 A AU 96-44273 960116
 FDT AU 9644273 A Based on WO 9622400
 PRAI AU 95-606 950118
 REP 2.Jnl.Ref ; GB 2255348; US 4124380; US 5039479; WO 9514112
 IC ICM C22C005-06
 ICS C22C001-03; C22C005-08
 AB WO 9622400 A UPAB: 960905
 Ag alloy composition comprises: (in wt.%): 2.5-19.5 Cu, 0.02-2 Si,
 0.01-3.3 Ge and balance Ag.
 Three other compositions and a method of manufacture are also
 claimed.
 Ag content of alloy is at least 83.0, pref. at least 92.5
 wt.%.. Cu content of alloy is 6-16 wt.%.. Ge content is 0.04-2.0
 wt.%. Alloy may contain a modifying additive of 0.0-3.5 wt.% of
 original composition, selected from one or a mixture of In and B,
 where B content is 0.0-2.0 wt.% and In content is 0-1.5 wt.%..
 Composition may also be alloyed with Sn comprising 0.0-6.0 wt.%.
 Method of producing Ag alloy compositions comprises alloying to
 at least 80 wt.% Ag with a master alloy comprising (in wt.%):
 43.0-99.85 Cu, 0.1-44.3 Si and 0.05-56.7 Ge.
 USE - Jewellery, flatware and coinage applications.
 ADVANTAGE - High Cu-contg. Ag alloys that exhibit fire-scale
 resistance.
 Dwg.0/0
 FS CPI
 FA AB

L4 ANSWER 1 OF 4 WPIDS COPYRIGHT 1997 DERWENT INFORMATION LTD
AN 95-200397 [26] WPIDS
DNC C95-092652
TI Silver alloy for jewellery and coinage - contains firescale
resisting additive selected from zinc and silicon , and shows
improved work hardening performance, and reduced fire scaling,
porosity and oxidn..
DC M26
IN ECCLES, A P
PA (APEC-N) APECS INVESTMENT CASTINGS PTY LTD
CYC 20
PI WO 9514112 A1 950526 (9526)* EN 17 pp C22C005-08 <--
AU 9470629 A 950606 (9538) C22C005-08
FI 9603803 A 960924 (9651) C22C000-00
EP 752014 A1 970108 (9707) EN C22C005-08
R: AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE
NO 9603668 A 961202 (9708) C22C000-00
ADT WO 9514112 A1 WO 94-AU351 940627; AU 9470629 A AU 94-70629 940627;
FI 9603803 A WO 94-AU351 940627, FI 96-3803 960924; EP 752014 A1 EP
94-919462 940627, WO 94-AU351 940627; NO 9603668 A WO 94-AU351
940627, NO 96-3668 960903
FDT AU 9470629 A Based on WO 9514112; EP 752014 A1 Based on WO 9514112
PRAI AU 93-2432 931115
REP 10Jnl.Ref ; EP 64181; JP 04339500; JP 3087325; JP 52023660; JP
56119747; JP 57187195; JP 60082635; JP 61034144; JP 61034147
IC ICM C22C000-00; C22C005-08
ICS C22C001-03; C22C005-06; C22C009-00; C22C009-04; C22C009-10;
C22C030-02; C22C030-06
AB WO 9514112 A UPAB: 950705
An Ag alloy compsn. (A) essentially contains (wt.%) : 80-99 Ag,
0.5-6 Cu, 0.02-7 of a firescale resisting additive selected from one
or more of Zn and Si and 0.01-2.5 Ge.
A further compsn. (B) comprises (wt.%) 89-95 Ag, 0.5-6 Cu,
0.05-5 zN, 0.02-2 Si, 0.001-2 B, 0.01-1.5 In and 0.01-2.5 Ge. Alloy
(B) may also contain 0.25-6 Sn.
A master alloy for the prodn. of Ag alloys essentially
comprises (wt.%): 2.5-99.85 Cu, 0.1-35 Zn and/or Si, and 0.05-12.5
Ge. A further master compsn. comprises (wt.%): 2.5-99.55 Cu, 0.24-25
Zn, 0.1-10 Si, 0.005-10 B, 0.05-15 In and 0.05-25 Ge. The master
alloy may also contain 2-30 Sn.
USE - The alloy is used for jewellery, flatware and coinage.
ADVANTAGE - The alloys display reduced fire scale, porosity,
oxide formation and grain size whilst providing improved work
hardening performance.
Dwg.0/0
FS CPI
FA AB
MC CPI: M26-B01; M26-B01B; M26-B01C; M26-B01J; M26-B01S; M26-B01X;
M26-B01Z

L4 ANSWER 2 OF 4 WPIDS COPYRIGHT 1997 DERWENT INFORMATION LTD
AN 92-367976 [45] WPIDS
DNC C92-163369
TI Silver -based germanium -copper alloy for jewellery, coins and medals
- with none of the oxidn. problems of binary silver -copper while
retaining strength and lustre.
DC M26 P23
IN ALBERT, L; JOHNS, P G; RATEAU, M

PA (META-N) METALEUROP RECH

CYC 5

PI GB 2255348 A 921104 (9245)* 9 pp C22C005-08 <--
DE 4213897 A 921105 (9246) 6 pp C22C005-08
FR 2675817 A1 921030 (9252) 8 pp C22C005-08
GB 2255348 B 940615 (9421) C22C005-08 <--
BE 1006333 A3 940726 (9436) 14 pp C22C000-00
IT 1259562 B 960320 (9639) C22C000-00

ADT GB 2255348 A GB 92-9180 920428; DE 4213897 A DE 92-4213897 920428;
FR 2675817 A1 FR 91-5248 910429; GB 2255348 B GB 92-9180 920428; BE
1006333 A3 BE 92-386 920428; IT 1259562 B IT 92-TO365 920428

PRAI FR 91-5248 910429

IC ICM C22C005-08

ICS A44C003-00; A44C021-00

AB GB 2255348 A UPAB: 931006

Alloy contains (by wt.%) not less than 92.5 Ag, 0.5-3 Ge and balance
Cu. A pref. alloy contains 92.5 Ag, 0.5-3 Ge and 1-7 Cu, esp. 92.5
Ag, 1.5-3 Ge and 4.5-6 Cu.

USE/ADVANTAGE - Used for the prodn. or plating of jewellery,
coins or medals. Hardness and lustre of Ag-Cu binary alloys is
retained while eliminating problems arising due to oxidn. of Cu. The
alloys have good cold forming properties, can be readily brazed and
do not undergo shrinkage during casting. Tarnishing is less rapid
than with the binary alloy.

In an example, an alloy contg. 5 Cu and 2.5 Ge after annealing
at 450 deg.C. and tempered in ambient air gave a Vickers hardness of
70 kg/mm2 at 150 N, elastic limit (0.2%) of 15-20 Kg/mm2, tensile
strength 48-57 kg/mm2, elongation 0-20%, critical cold hardening
level 30-35% and critical Vickers hardness 180 kg/mm2 at 150 N. A
study of the effect of annealing temp. on cold worked (35%) material
showed hardness falling to a min. at 550 deg.C. then rising again
with increasing temp..

0/0

FS CPI GMPI

FA AB

MC CPI: M26-B01; M26-B01C; M26-B01X

L4 ANSWER 3 OF 4 WPIDS COPYRIGHT 1997 DERWENT INFORMATION LTD

AN 91-259875 [35] WPIDS

DNC C91-112788

TI Master alloy compsn. with reduced fire scale and porosity -
comprises silicon, boron, zinc, copper, tin and indium, used for
blending with silver.

DC M26

IN BERNHARD, M; SIVERTSEN, J T

PA (UNPR-N) UNITED PRECIOUS MET

CYC 1

PI US 5039479 A 910813 (9135)*

ADT US 5039479 A US 90-579054 900905

PRAI US 90-579054 900905

IC C22C005-06; C22C013-00; C22C018-02; C22C030-00

AB US 5039479 A UPAB: 930928

Alloys of silver and master alloys of other metals for blending with
silver are claimed. Compsns. of master alloys (wt.%) are: (1) Si
0.91-30.77, B 0.001-30.77, Zn 4.54-76.93, Cu 4.54-92.31, Sn
2.27-30.77, In 0.09-19.24. (2) Pref. is compsn. Si 1.33, B 0.33, Zn
56.67, Cu 35, Sn 6.40, In 0.27, (3) Si 0.05-14, B 0.05-17, Zn 5-35,
Cu 5-35, Sn 5-80, In 0.01-1.25, (4) Pref. compsn. is Si 0.675, B
0.135, Zn 25, Cu 19.44, Sn 54, In 0.75.

Compsns. of silver alloys (wt.%) are: (5) Ag 89-93.5, Si
0.02-2, B 0.001-2, Zn 0.5-5, Cu 0.5-6, Sn 0.25-6, In 0.01-1.25. (6)
Pref. compsn. is Ag 92.6, Zn 1.85, In 0.05, Sn 4, Cu 1.44, B 0.01,
Si 0.05.

USE/ADVANTAGE - Alloys of the invention may be used to produce
silver alloys which are suitable for both coinage and decorative
silverware. The alloys show a reduced porosity and reduced fire

No
have

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scale they also have a fine grain size.

0/0

FS CPI

FA AB

MC CPI: M26-B01; M26-B01B; M26-B01C; M26-B01J; M26-B01S; M26-B05;
M26-B05B; M26-B05C; M26-B05J; M26-B05S; M26-B05Z; M26-B07;
M26-B07B; M26-B07C; M26-B07J; M26-B07S; M26-B07T; M26-B12

L4 ANSWER 4 OF 4 WPIDS COPYRIGHT 1997 DERWENT INFORMATION LTD

AN 78-83840A [46] WPIDS

TI Oxidn. resistant silver-copper-germanium alloy - opt. contg. tin and
precious metals useful as dental and solder alloy.

DC D21 M23 M26

PA (YOUD-I) YOUELIS W V

CYC 4

PI US 4124380 A 781107 (7846)* <--
DE 2837054 A 800306 (8011)
GB 2033425 A 800521 (8023)
CA 1082492 A 800729 (8033)
DE 2837054 B 810702 (8128)
GB 2033425 B 821222 (8251)

PRAI US 77-809764 770624

IC C22C001-10; C22C005-00; C22C009-00

AB US 4124380 A UPAB: 930901

A novel Ag-Cu-Ge base alloy has the compsn. (by wt.) 40-85 % Ag,
15-60% Cu and 0.1-10% Ge. The alloy may also contain up to 15% Sn
and/or up to 10% of ≥ 1 of Au, Pd and Pt.

Used esp. as a cast, wrought or powder dental alloy. The
presence of Ge gives (a) virtual elimination of oxidn. of the alloy
during melting and casting (due to formation of a protective blanket
of gaseous Ge oxide), (b) high surface tension of the allow melt
resulting in improved castability, and (c) improved hardness control
according to solidification rate.

FS CPI

FA AB

M

have

L3 ANSWER 1 OF 3 CA COPYRIGHT 1997 ACS

AN 125:202420 CA

TI Silver-copper alloys with deoxidizer for preventing firescale defects in casting or hot working

IN Eccles, Anthony Philip

PA Apecs Investment Castings Pty. Ltd., Australia

SO PCT Int. Appl., 13 pp.

CODEN: PIXXD2

PI WO 9622400 A1 960725

DS W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI

RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, DE, DK, ES, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE

AI WO 96-AU19 960116

PRAI AU 95-606 950118

DT Patent

LA English

AB The Ag alloys of sterling type contain Cu 2.5-19.5, Si (as deoxidizer) 0.02-2, and Ge (to improve work hardening) 0.01-3.3%, optionally with B 0-2, In 0-1.5, and/or Sn 0.0-6.0%. Molten Ag can be alloyed by adding a master alloy contg. Cu 43.0-99.85, Si 0.1-44.3, and Ge 0.05-56.7%. The Ag alloys can be cast and hot worked without formation of firescale defects on the surface, and can have increased Cu content compared with <8% in the sterling alloys. The typical Ag alloy contains Cu 7.0, Si 0.2, and Ge 0.3%, and shows Vickers microhardness of 86.9-92.4 on cast ingot, 170-181 after rolling with 75% redn., and 73.6 after annealing. The alloys are suitable for sterling jewelry, or for elec. contacts with increased hardness.

L3 ANSWER 2 OF 3 CA COPYRIGHT 1997 ACS

AN 123:176751 CA

TI Silver alloys of sterling type for jewelry and coinage with work hardening and resistance to oxidation

IN Eccles, Anthony-Philip

PA Apecs Investment Castings Pty. Ltd., Australia

SO PCT Int. Appl., 15 pp.

CODEN: PIXXD2

PI WO 9514112 A1 950526

DS W: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, ES, FI, GB, GE, HU, JP, KE, KG, KP, KR, KZ, LK, LU, LV, MD, MG, MN, MW, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SI, SK, TJ, TT, UA, US, UZ, VN, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG

AI WO 94-AU351 940627

PRAI AU 93-2432 931115

DT Patent

LA English

AB The high-Ag alloys resistant to fire-scale defects and oxide film formation contain Ag 80-99.0, Cu 0.5-6, Zn and/or Si (for fire-scale prevention) 0.02-7, and Ge 0.01-2.5%, preferably with the Ag at .gtoreq.92.5% for the sterling range, and optionally with minor B, In, and/or Sn. The Ag alloys can be manufd. using the master alloys contg. Cu 2.5-99.85, Zn and/or Si 0.1-35, and Ge 0.05-12.5%. Cast Ag alloy contg. Ag 92.5, Cu 2.35, Zn 2.82, Si 0.19, Ge 1.9, In 0.23, and B 0.01% showed Vickers microhardness of 70.2 increasing to 146 after cold working with 50% redn., and decreasing to 59.5 after annealing.

PA TANAKA KIKINZOKU KOGYO KK, JP (CO 399618)
PI JP 61006227 A 19860111 Showa
AI JP 84-127994 (JP59127994 Showa) 19840621
SO PATENT ABSTRACTS OF JAPAN, Unexamined Applications, Section: C,
Sect. No. 350, Vol. 1, No. 148, P. 27 (19860529)
AB PURPOSE: To obtain a sliding contact material having low and stable
contact resistance by adding prescribed amounts of Cu, Cd and one or
more among B, Si, Ge and Ti to Ag so as to
control the stickiness of an Ag-Cd alloy and to improve the wear
resistance.
CONSTITUTION: A sliding contact material is obtd. by adding 3-12wt%
Cu, 0.5- 5wt% Cd and 0.5-10wt% one or more among B, Si,
Ge and Ti to Ag. When 0.01-0.5wt% Fe group element such as
Fe, Ni or Co is substituted for part of said added elements, the
grains can be made fine and the wear resistance is further improved.
Since the sliding contact material is hardly stuck and has superior
wear resistance, when the contact chips of a commutator for a
small-sized motor are made of the sliding contact material, the
contact chips produce very little dust due to wear during sliding
along brush contacts. No noise is generated and a beneficial effect
such as low and stable contact resistance is shown.

L12 ANSWER 9 OF 12 JAPIO COPYRIGHT 1997 JPO and Japio
AN 82-187196 JAPIO
TI SILVER SOLDER MATERIAL
IN NARA TAKASHI; DAIGO HIROTO; WATANABE OSAMU
PA TOKURIKI HONTEN CO LTD, JP (CO 367432)
PI JP 57187196 A 19821117 Showa
AI JP 81-72006 (JP56072006 Showa) 19810513
SO PATENT ABSTRACTS OF JAPAN, Unexamined Applications, Section: M,
Sect. No. 192, Vol. 7, No. 311, P. 157 (19830208)
AB PURPOSE: To produce a silver solder material whose surface state
after soldering is good, by adding small quantities, of Si
, Pb, Mg, etc. and a small quantity of P to an Ag-Cu alloy and
adding furthermore small quantities of Ge, Mn, Ni, etc. to
it.
CONSTITUTION: 0.05-0.5% one or more of Si, Pb, and Mg and
0.001-0.5% P are added to an Ag-Cu alloy consisting of 50-95% Ag and
5-50% Cu, and further, 0.005-1% one or more of Ge, Mn, and
Ni are added, thus obtaining a silver solder material. In respect to
components, Si, Pb, and Mg deoxidize the silver solder
material in the course of production and use of the solder material
and prevent the surface from being rough by gas discharge for
solidification of the solder material. P is an element having a
great effect to promote degassing and fluidity of the solder.
Ge, Mn, and Ni make the metallic organization minute for
solidification of the solder material to make the surface smooth.

L12 ANSWER 10 OF 12 JAPIO COPYRIGHT 1997 JPO and Japio
AN 82-187195 JAPIO
TI SILVER SOLDER MATERIAL
IN NARA TAKASHI; DAIGO HIROTO; WATANABE OSAMU
PA TOKURIKI HONTEN CO LTD, JP (CO 367432)
PI JP 57187195 A 19821117 Showa
AI JP 81-72005 (JP56072005 Showa) 19810513
SO PATENT ABSTRACTS OF JAPAN, Unexamined Applications, Section: M,
Sect. No. 192, Vol. 7, No. 311, P. 156 (19830208)
AB PURPOSE: To improve the surface state after soldering without
damaging the basic capacity as a solder material, by adding small
quantities of Si, Pb, Mg, etc. to an Ag-Cu alloy and
adding Ge, Mn, Ni, etc. to it furthermore.
CONSTITUTION: 0.05-0.5% one or more out of Si, Pb, and Mg

draft, heat-treated at 200-600.degree.C for 0.1-1hr, and then cold-worked at .gtoreq.30% draft.

L12 ANSWER 6 OF 12 JAPIO COPYRIGHT 1997 JPO and Japio
AN 92-339590 JAPIO
TI SILVER BRAZING FILLER METAL
IN KAWANOBE KOHEI; SHIMIZU SHOTARO
PA CITIZEN WATCH CO LTD, JP (CO 000196)
PI JP 04339590 A 19921126 Heisei
AI JP 91-133389 (JP03133389 Heisei) 19910510
SO PATENT ABSTRACTS OF JAPAN, Unexamined Applications, Section: M, Sect. No. 1396, Vol. 17, No. 191, P. 55 (19930414)
AB PURPOSE: To provide the brazing filler metal for joining a gold alloy and a platinum alloy.
CONSTITUTION: This silver brazing filler metal contains 15 to 90% silver(Ag), 3 to 83% copper(Cu), 2 to 10% germanium(Ge), and the balance consisting of at least one kind selected from .ltoreq.10% phosphorus (P), .ltoreq.8% zinc(Zn), .ltoreq.6% tin(Sn), .ltoreq.12% gallium(Ga), .ltoreq.9% indium (In), .ltoreq.7% cadmium(Cd), and .ltoreq.2% antimony(Sb). This brazing filler metal is used for forming jewellery combined with the gold alloy and the platinum alloy and has particularly the high joint strength at the boundary with the platinum alloy.

L12 ANSWER 7 OF 12 JAPIO COPYRIGHT 1997 JPO and Japio
AN 86-041733 JAPIO
TI MANUFACTURE OF AMORPHOUS ALLOY CONTAINING METALLIC PARTICLE DISPERSED AS SECOND PHASE
IN MASUMOTO TAKESHI; INOUE AKIHISA; HARAKAWA YOSHIO; OGUCHI MASAHIRO; YANO NOBUYOSHI
PA MASUMOTO TAKESHI, JP (IN)
UNITIKA LTD, JP (CO 000450)
TEIKOKU PISTON RING CO LTD, JP (CO 352190)
PI JP 61041733 A 19860228 Showa
AI JP 84-164694 (JP59164694 Showa) 19840806
SO PATENT ABSTRACTS OF JAPAN, Unexamined Applications, Section: C, Sect. No. 359, Vol. 1, No. 199, P. 85 (19860711)
AB PURPOSE: To manufacture an amorphous alloy contg. metallic particles dispersed as the 2nd phase and having superior mechanical, electrical and magnetic properties and superior corrosion resistance by melting a specified alloy causing two- phase separation and by cooling the molten alloy at a very high cooling rate so that fine metallic particles are uniformly dispersed as the 2nd phase in metals forming the matrix phase.
CONSTITUTION: A molten alloy having a composition represented by general formula $MaXbYc$ (where M and X are elements forming the amorphous matrix phase of a product alloy; M is one or more among Fe, Co, Ni, Cr, Mo and V; X is one or more among B, P, Si, C, Ge, Zr, Hf and Nb; Y is one or more kinds of elements forming fine metallic particles as the 2nd phase selected from Cu, Ag, Au, Pb, Rh, Sn and Be; $a=100-(b+c)$; $b=10-35\text{atom\%}$; and $c=1-10\text{atom\%}$) is rapidly cooled at 104-106.degree.C/sec cooling rate by a single- or twin-roll method or other method so that hyperfine metallic particles of about 1-100nm particle size are uniformly dispersed as the 2nd phase. An amorphous alloy contg. metallic particles dispersed as the 2nd phase is obtd.

L12 ANSWER 8 OF 12 JAPIO COPYRIGHT 1997 JPO and Japio
AN 86-006227 JAPIO
TI SLIDING CONTACT MATERIAL
IN FUJISHIMA SUSUMU

PI JP 07290255 A 19951107 Heisei
AI JP 94-91118 (JP06091118 Heisei) 19940428
SO PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 95, No. 11

AB PURPOSE: To remarkably improve the service life of an electrode material and to obtain an electrode service life equal to that of a galvanized steel sheet.

CONSTITUTION: This electrode material has a compsn. contg., by weight, total 0.001 to 0.05% of one or .gtoreq. two kinds among As, Fe, Co and Si or contg. total one or .gtoreq. two kinds or Mn, Mg, Ni, Sn, Sb, P, B and Ge (where the total is regulated to .ltoreq. 0.02% in the case P is contained) or contg. total 0.001 to <1.0% of one or .gtoreq. two kinds or In, Y, rare earth elements, Ag, Zn and Ca, and the balance Cu with inevitable impurities.

L12 ANSWER 4 OF 12 JAPIO COPYRIGHT 1997 JPO and Japio
AN 94-220555 JAPIO

TI SLIDING CONTACT MATERIAL AND ITS PRODUCTION

IN ASADA TAKAO

PA TANAKA KIKINZOKU KOGYO KK, JP (CO 399618)
MABUCHI MOTOR CO LTD, JP (CO 468529)

PI JP 06220555 A 19940809 Heisei

AI JP 93-89128 (JP05089128 Heisei) 19930324

SO PATENT ABSTRACTS OF JAPAN, Unexamined Applications, Section: C, Sect. No. 1272, Vol. 18, No. 591, P. 113 (19941111)

AB PURPOSE: To produce a sliding contact material where wear resistance is improved and the formation of wear particle is reduced and the occurrence of noise is prevented.

CONSTITUTION: This material is a sliding contact material containing 0.1-8wt.% Cu, in which .gtoreq. 7wt.% of the total Cu content is allowed to enter into solid solution in Ag.alpha.-phase and further at least one or more elements selected from Ge, Ni, Sn, In, Zn, Mg, Mn, Sb, Pb, and Bi are contained by 0.1-2wt.%.

The sliding contact material is subjected to holding at a temp. in the range not higher than the solidus temp. in the AgCu binary constitutional diagram of the composition and not lower than the solubility curve temp., to rapid cooling, and then to cold working at .gtoreq. 30% draft.

L12 ANSWER 5 OF 12 JAPIO COPYRIGHT 1997 JPO and Japio
AN 94-172894 JAPIO

TI SLIDING CONTACT POINT MATERIAL AND ITS PRODUCTION

IN ASADA TAKAO

PA TANAKA KIKINZOKU KOGYO KK, JP (CO 399618)
MABUCHI MOTOR CO LTD, JP (CO 468529)

PI JP 06172894 A 19940621 Heisei

AI JP 93-89129 (JP05089129 Heisei) 19930324

SO PATENT ABSTRACTS OF JAPAN, Unexamined Applications, Section: C, Sect. No. 1254, Vol. 18, No. 517, P. 66 (19940929)

AB PURPOSE: To provide a working method for a sliding contact point material where wear resistance is improved and the generation of wear particle and the occurrence of noise is prevented.

CONSTITUTION: This material is a contact point material where a Cu .alpha. phase of .ltoreq. 2.mu.m average grain size is finely and uniformly dispersed in an Ag.alpha. phase in an AgCu alloy containing 0.1-8wt.% Cu and which further contains at least one or more elements selected from Ge, Ni, Sn, In, Zn, Mg, Mn, Sb, Pb, and Bi by 0.1-2wt.%. The contact point material is held at a temp. not higher than the solidus temp. in the AgCu binary system phase diagram of the composition and not lower than the solubility curve temp., cooled rapidly, cold-worked at .gtoreq. 50%

AN 77-24286Y [14] WPIDS
TI : Wear-resistant silver oxide system electrical contact compsn. -
obtd. by internal oxidn. of silver-indium-tin-copper-zinc alloy
contg. one or more other given metals.

DC L03 M26 X12 X13

PA (TANI) TANAKA KIKINZOKU KK

CYC 1

PI JP 52023660 A 770222 (7714)*

PRAI JP 75-99947 750818

AB JP52023660 A UPAB: 930901

The contact, for use in an electromagnetic switch, is formed by internal oxidn. of Ag-In-Sn-Cu-Zn alloy which contains (wt.%) 1-7 In, 1-7 Cu, 1-5 Sn, 1-4 Zn, and the rest of Ag, where the total of In, Cu, Sn and Zn is below 15. The alloy further contains 0.7 of at least one metal from Ca, Ce, Co, Fe, Ga, La, Al, Sr, Ti, Li, Mg, Ni, Mn and Ge.

The contact has high wear durability and high fusion

hau

PI JP 57035655 A 820226 (8214)*
JP 59007337 B 840217 (8411)
ADT JP 57035655 A JP 80-109886 800812
PRAI JP 80-109886 800812
AB JP57035655 A UPAB: 930915

An alloy powder for dental silver amalgam is prepd. from a silver alloy by crushing or atomising with the injection of a gas stream. The silver alloy comprises Sn (20-35%), Cu (7-25%), Ge (0.1-5%), Zn (0-2%) and Ag.

The alloy powder is useful as a dental filler having good resistance to oxidn. and corrosion. The oxidn. resistance of such a dental alloy has been maintained so far by **Zn** addn. But the **Zn** additive can cause expansion if saliva or water is mixed in the amalgam. This is overcome by the addn. of **Ge** instead of **Zn**, which enables the prodn. of the alloy in air without necessity of a special atmos. such as reductive gas or inert gas.

L3 ANSWER 3 OF 3 CA COPYRIGHT 1997 ACS
AN 105:64869 CA
TI Sliding contact materials
IN Fujishima, Susumu
PA Tanaka Noble Metal Industrial Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 3 pp.

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be the art*

CODEN: JKXXAF
PI JP 61034148 A2 860218 Showa
AI JP 84-154859 840725

DT Patent

LA Japanese

AB ~~Cu 3-12~~, Cd 0.1-5, Zn 1-7, and Si, Zr, Bi, Ge, and/or Ga 0.5-5% are added to Ag to give sliding elec. contacts. A part of the added elements may be substituted by 0.01-0.5% Fe group elements. The contact app. has low contact resistance and shows only a little abrasion loss. Thus, a 2-mm contact part of Ag alloy contg. Cu 6, Cd 2, Zn 4, Bi 2, and Ni 0.2% was formed on a commutator of a motor. This was slide-contacted with a Au-Ag-Cu-Pt alloy brush for 7 h at d.c. 12 V, 0.6 A, 1000 rpm, and 100 g load to show an abrasion loss of the alloy 5.0 mg and contact resistance 18-363 m.OMEGA., compared with 12.4 mg and 18-453 m.OMEGA. for Ag-11% Cd alloy.

other additives improve wear resistance by the action of their oxides as a lubricant.

1/1

L6 ANSWER 7 OF 11 WPIDS COPYRIGHT 1997 DERWENT INFORMATION LTD
AN 85-149928 [25] WPIDS

DNC C85-065433

TI Brazeable brass useful in heat exchangers etc. - includes tin and aluminium to improve corrosion resistance.

DC M26

PA (NIHA) NIPPON MINING CO

CYC 1

PI JP 60082635 A 850510 (8525)* 7 pp <--

ADT JP 60082635 A JP 83-189342 831012

PRAI JP 83-189342 831012

AB JP60082635 A UPAB: 930925

Brass comprises by wt., 10-40

Zn, 0.05-1.0% Sn, 0.05-1.0% Al, 0.005-2.0% (in total) one or more of B, Ni, Si, Co, Cr, Mn, Te, In, Ti, Zr, Hf, Be, Mg, Ag, Cd and Ge, and the balance Cu and impurities. The amt. of each additional element is controlled at 0.005-1.0%. The grain size of the alloy is pref. adjusted to 0.015 mm or less by final annealing. The annealed alloy may be cold rolled with a work ratio of 3-20%.

USE/ADVANTAGE - Useful as structural material of a heat exchanger, e.g. a steam condenser, a water heater or a cooler. The corrosion resistance of the alloy material esp. at its welded part is improved by the addition of Sn, Al and As or Sb. The corrosion resistance is further enhanced by making the grain size smaller. The addn. elements such as B, Ni, Si, etc. improve the mechanical strength of the alloy without reducing the corrosion resistance.

0/2

L6 ANSWER 8 OF 11 WPIDS COPYRIGHT 1997 DERWENT INFORMATION LTD
AN 83-00720K [01] WPIDS

DNN N83-001666 DNC C83-000706

TI Silver brazing alloy - contains copper together with silicon, lead, and/or magnesium, and pref. germanium, manganese, and/or nickel.

DC M23 P55

PA (TOJH) TOKURIKI HONTEN KK

CYC 1

PI JP 57187195 A 821117 (8301)* 4 pp <--

JP 62047117 B 871006 (8743)

ADT JP 57187195 A JP 81-72005 810513

PRAI JP 81-72005 810513

AB JP57187195 A UPAB: 930925

To provide an Ag solder which has good soldering property, good formability, good fluidity when melt and ability to form (deposit) the soldered metal (brazed zone) exhibiting an excellent surface smoothness and is used for brazing electron parts of the vacuum tube or like parts in an inert gas or vacuum.

The alloy is produced by adding one or more of Si, Pb and Mg in an amt. 0.05-0.5% to a Ag-Cu compsn. which is composed of Ag 50-95% and of Cu 5-50%. Pref. one or more of Ge, Mn and Ni in an amt. 0.005-1.0% may be further added to the Ag-Cu compsn. The structure of brazed metal of this alloy becomes very fine and the amount of gases released from the brazed metal when solidifying can be reduced by adding Si, Pb or Mg. The roughness of the surface of the brazed metal is also reduced.

L6 ANSWER 9 OF 11 WPIDS COPYRIGHT 1997 DERWENT INFORMATION LTD
AN 82-97679E [46] WPIDS

TI Inexpensive copper alloy for electric contacts - contains germanium,

L8 ANSWER 1 OF 5 WPIDS COPYRIGHT 1997 DERWENT INFORMATION LTD
AN 96-307016 [31] WPIDS
DNC C96-098130
TI Mfg. magnesium alloy - by adding specified alloy element(s) so that s-orbital energy level, mol. fraction of each alloy element, and specified mechanical characteristics of alloy, satisfy specified working curve.

DC M26
PA (MITG) MITSUI MINING & SMELTING CO LTD
CYC 1

PI JP 08134581 A 960528 (9631)* 5 pp

ADT JP 08134581 A JP 94-279521 941114

PRAI JP 94-279521 941114

AB JP08134581 A UPAB: 960808

A Mg alloy having desired mechanical characteristics is mfd. by adding at least one alloy element of respectively up to 8.0% Li, 0.1% Be, 0.1% Na, 10% Al, 2.0% Si, 0.1% K, 10% Ca, 0.1% Ti, 0.1% V, 0.1% Cr, 0.1% Mn, 0.1% Fe, 0.1% Co, 0.1% Ni, 10% Cu, 10% Zn, 0.1% Ga, 0.1% Ge, 10% Y, 1.0% Zr, 0.1% Nb, 0.1% Mo, 10% Ag, 0.1% Cd, 0.1% In, 0.1% Sn, 0.1% Sb, 20% La, 20% Co, 20% Pr, 20% Nb, 20% Sm, 25% Gd, 25% Tb and 25% Dy, so that the s-orbital energy level (Mk) calculated by a molecular orbital method with respect to Mg and each alloy element, the mol. fraction of each alloy element, and the specified mechanical characteristics (Mp) of the alloy, satisfy a specified working curve.

USE - Used for Mg alloy having specified tensile strength and Vicker's hardness.
Dwg.0/3

L8 ANSWER 2 OF 5 WPIDS COPYRIGHT 1997 DERWENT INFORMATION LTD

AN 87-256903 [36] WPIDS

DNC C87-108769

TI Superplastic forming aluminium-based alloy - contains scandium and pref. magnesium and/or silicon, silver, copper, germanium and lithium.

DC M26 P52
IN BRETZ, P E; JENSEN, C L; SAWTELL, R R
PA (ALUM) ALUMINUM CO OF AMERICA
CYC 5

PI US 4689090 A 870825 (8736)* 5 pp

GB 2188064 A 870923 (8738)

FR 2595968 A 870925 (8743)

JP 62284045 A 871209 (8804)

GB 2188064 B 891115 (8946)

CA 1287241 C 910806 (9136)

ADT US 4689090 A US 86-841648 860320; GB 2188064 A GB 87-6710 870220; FR 2595968 A FR 87-3930 870320; JP 62284045 A JP 87-67724 870320

PRAI US 86-841648 860320; US 87-85851 870814

AB US 4689090 A UPAB: 930922

An aluminium-based alloy used in superplastic forming contains 0.05 to 10 wt.% Sc. Pref. it also contains one or more of 0.1 to 10% Mg, 0.1 to 2% Si, 0.1 to 10% Ag, 0.1 to 5%

Cu, 0.1 to 5% Ge or 0.1 to 5% Li, which lower flow stress; in a further embodiment Mg may be present up to 15%.

An alloy contg. 0.05-10% Sc and 0.5 to 15% Mg is produced by casting at a chill rate of not less than 36 deg.F/sec., hot rolling at not more than 800 deg.F and cold rolling with a redn. of not less than 30%.

ADVANTAGE - The superplastic forming ability of the alloys is enhanced by the addn. of scandium.

0/2

L8 ANSWER 3 OF 5 WPIDS COPYRIGHT 1997 DERWENT INFORMATION LTD
AN 86-110159 [17] WPIDS

CR 84-259321 [42]; 85-298857 [48]

DNN N86-081152 DNC C86-047136

TI Gold-beryllium alloy wire mfr. - by spouting alloy through small hole or slit into fluid and solidifying.

DC L03 M22 P53

PA (SUME) SUMITOMO ELECTRIC IND CO

CYC 2

PI JP 61052961 A 860315 (8617)* 3 pp

US 4702302 A 871027 (8745)

JP 04051254 B 920818 (9237) 3 pp

ADT US 4702302 A US 86-898835 860820; JP 04051254 B JP 83-29969 830223

FDT JP 04051254 B Based on JP 59156549

PRAI JP 83-29969 830223; JP 84-59947 840327; JP 84-174368 840822

AB JP61052961 A UPAB: 931114

Alloy contains 0.001-1 wt.% Be. The alloy is spouted out through small hole or slit into fluid, and solidified. Thus, gold alloy wire is obtd.

USE/ADVANTAGE - The wire is useful as anti-corrosive solder, wiring in semiconductor device, and ornaments. The jet flow of molten gold alloy is stabilised due to addn. of Be. Thin gold alloy wire is directly obtd. from molten alloy. It is possible to omit the intermediate heat treatment process. Yield is increased and energy dissipation is decreased. The surface of prod. is smooth, and workability of it is good.

In an example, the molten gold alloy contains at most 50 wt.% of one or more elements selected from Si, Cu, Sn, Zn, In, Ag, Ge, Ga, Al, Pd, Pt, Pb, Mg, Fe, Ni, Co, Ca, B, Bi, and P group. The molten alloy is spouted into the water which is fixed over inner surface of rotating drum by centrifugal force.
Dwg.0/3

L8 ANSWER 4 OF 5 WPIDS COPYRIGHT 1997 DERWENT INFORMATION LTD
AN 86-097147 [15] WPIDS

DNC C86-041433

TI Dispersed type amorphous alloy prodn. - by melting to form single phase and quench solidifying using liquid.

DC M27

PA (TPIS) TEIKOKU PISTON RING KK; (NIRA) UNITIKA KK; (NIRA) UNITIKA LTD

CYC 1

PI JP 61041733 A 860228 (8615)* 5 pp

JP 05024209 B 930407 (9317) 5 pp

ADT JP 05024209 B JP 84-164694 840806

FDT JP 05024209 B Based on JP 61041733

PRAI JP 84-164694 840806

AB JP61041733 A UPAB: 930922

The mfr. of the amorphous alloy having structure in which fine secondary phase metal particles are uniformly dispersed in the matrix, involves melting the alloys
MaxbYc

(M is one or more of Fe, Co, Ni, Cr, Mo, and V, X is one or more of B, P, Si, C, Ge, Zr, Hf, and Nb, and Y is metal elements forming secondary phase metal particles after quench-solidifying and is one or more of Cu, Ag, Au, Pb, Bi, Sn, and Be, a is at% of (100-(a+b)), b is 10-35 at%, and c is 1-10 at%) to obtain compatibly dissolved single phase melt and quench-solidifying the resultant melt by means of liq. quenching method.

USE/ADVANTAGE - Amorphous alloy having structure in which

secondary phase metal particles are finely and uniformly dispersed is obtd. without segregation of the particles. Quench-solidifying is effective in dispersing secondary phase metal particles uniformly without segregation and imparting excellent mechanical, electrical, magnetic, and corrosion resistance characteristics to the alloy.
0/0

L8 ANSWER 5 OF 5 WPIDS COPYRIGHT 1997 DERWENT INFORMATION LTD
AN 83-809790 [45] WPIDS
DNC C83-108166
TI Selenium-contg. dental alloy powder mixt. - giving amalgam with high initial strength and low toxicity.
DC D21 M26 P53
IN KUMEI, Y; MIURA, I; NAKANO, T; OKUNO, O; YOSHIDA, B
PA (GCDE) GC DENTAL IND CORP; (GCDE) GC SHIKA KOGYO KK; (GCDE) JISHI SHIKA KOGYO KK; (SATO-I) SATO A
CYC 6
PI FR 2524491 A 831007 (8345)* 13 pp
DE 3311862 A 831103 (8345)
JP 58171540 A 831008 (8346)
GB 2121823 A 840104 (8401)
US 4528034 A 850709 (8530)
CA 1198002 A 851217 (8604)
GB 2121823 B 860129 (8605)
US 4702765 A 871027 (8745)
DE 3311862 C 880623 (8825)
JP 03021613 B 910325 (9116)
ADT DE 3311862 A DE 83-3311862 830331; GB 2121823 A GB 83-8920 830331;
US 4528034 A US 83-478498 830324; US 4702765 A US 86-829862 860218;
JP 03021613 B JP 82-53681 820402
PRAI JP 82-53681 820402
AB FR 2524491 A UPAB: 930925
A selenium-contg. alloy, for prepn. of dental amalgams, comprises (by wt.) 0.1-50% of alloy powder (A), (B) or (C), mixed with 50-99.9% of **Ag-Sn-Cu** amalgam alloy powder, in which (A) is an **Ag** alloy powder contg. at least 50 wt.% **Ag** and 0.01-10 wt.% Se, (B) is a **Cu** alloy powder contg. at least 50 wt.% **Cu** and 0.01-5 wt.% Se, and (C) is a mixt. of (A) and (B) contg. at least 50 wt.% **Ag+Cu** and 0.01-10 wt.% Se. The alloy powders may be pre-amalgamated with up to 3 wt.% Hg.
The Se addn. improves the initial compressive strength of the amalgam and prevents escape of mercury prior to full hardening of the amalgam, by formation of a Se Hg phase.
0/0B

L11 ANSWER 1 OF 7 WPIDS COPYRIGHT 1997 DERWENT INFORMATION LTD
AN 96-354554 [35] WPIDS

DNC C96-111782

TI Silver alloy compositions - contain copper, silicon and germanium, and exhibit lack of significant fire-scale formation during casting.

DC M26

IN ECCLES, A P

PA (APEC-N) APECS INVESTMENT CASTINGS PTY LTD

CYC 70

PI WO 9622400 A1 960725 (9635)* EN 12 pp

RW: AT BE CH DE DK EA ES FR GB GR IE IT KE LS LU MC MW NL OA PT
SD SE SZ UG

W: AL AM AT AU AZ BB BG BR BY CA CH CN CZ DE DK EE ES FI GB GE
HU IS JP KE KG KP KR KZ LK LR LS LT LU LV MD MG MK MN MW MX
NO NZ PL PT RO RU SD SE SG SI SK TJ TM TR TT UA UG US UZ VN

AU 9644273 A 960807 (9646)

ADT WO 9622400 A1 WO 96-AU19 960116; AU 9644273 A AU 96-44273 960116

FDT AU 9644273 A Based on WO 9622400

PRAI AU 95-606 950118

AB WO 9622400 A UPAB: 960905

Ag alloy composition comprises: (in wt.%): 2.5-19.5 Cu, 0.02-2 Si, 0.01-3.3 Ge and balance Ag.

Three other compositions and a method of manufacture are also claimed.

Ag content of alloy is at least 83.0, pref. at least 92.5 wt.%.. Cu content of alloy is 6-16 wt.%.. Ge content is 0.04-2.0 wt.%. Alloy may contain a modifying additive of 0.0-3.5 wt.% of original composition, selected from one or a mixture of In and B, where B content is 0.0-2.0 wt.% and In content is 0-1.5 wt.%.. Composition may also be alloyed with Sn comprising 0.0-6.0 wt.%.

Method of producing Ag alloy compositions comprises alloying to at least 80 wt.% Ag with a master alloy comprising (in wt.%): 43.0-99.85 Cu, 0.1-44.3 Si and 0.05-56.7 Ge.

USE - Jewellery, flatware and coinage applications.

ADVANTAGE - High Cu-contg. Ag alloys that exhibit fire-scale resistance.
Dwg.0/0

L11 ANSWER 2 OF 7 WPIDS COPYRIGHT 1997 DERWENT INFORMATION LTD
AN 95-200397 [26] WPIDS

DNC C95-092652

TI Silver alloy for jewellery and coinage - contains firescale resisting additive selected from zinc and silicon, and shows improved work hardening performance, and reduced fire scaling, porosity and oxidn..

DC M26

IN ECCLES, A P

PA (APEC-N) APECS INVESTMENT CASTINGS PTY LTD

CYC 2

PI WO 9514112 A1 950526 (9526)* EN 17 pp

AU 9470629 A 950606 (9538)

FI 9603803 A 960924 (9651)

ADT WO 9514112 A1 WO 94-AU351 940627; AU 9470629 A AU 94-70629 940627;

FDT AU 9470629 A WO 94-AU351 940627, FI 96-3803 960924

PRAI AU 9470629 A Based on WO 9514112

AB AU 93-2432 931115

WO 9514112 A UPAB: 950705

An Ag alloy compsn. (A) essentially contains (wt.%) : 80-99 Ag, 0.5-6 Cu, 0.02-7 of a firescale resisting additive selected from one or more of Zn and Si and 0.01-2.5 Ge.

A further compsn. (B) comprises (wt.%) 89-95 Ag, 0.5-6 Cu, 0.05-5 **zN**, 0.02-2 **Si**, 0.001-2 B, 0.01-1.5 In and 0.01-2.5 **Ge**. Alloy (B) may also contain 0.25-6 Sn.

A master alloy for the prodn. of Ag alloys essentially comprises (wt.%) : 2.5-99.85 Cu, 0.1-35 **Zn** and/or **Si**, and 0.05-12.5 **Ge**. A further master compsn. comprises (wt.%) : 2.5-99.55 Cu, 0.24-25 **Zn**, 0.1-10 **Si**, 0.005-10 B, 0.05-15 In and 0.05-25 **Ge**. The master alloy may also contain 2-30 Sn.

USE - The alloy is used for jewellery, flatware and coinage.

ADVANTAGE - The alloys display reduced fire scale, porosity, oxide formation and grain size whilst providing improved work hardening performance.

Dwg.0/0

L11 ANSWER 3 OF 7 WPIDS COPYRIGHT 1997 DERWENT INFORMATION LTD
AN 87-165268 [24] WPIDS
DNN N87-123870 DNC C87-068712
TI Rapid response circuit-breaker - made of amorphous alloy e.g. nickel-zirconium.
DC L03 M26 X13
IN DESRE, E; DESRE, P; JOUD, J C; LANDAUD, D; SENILLOU, C; YAVARI, A R
PA (CNRS) CNRS CENT NAT RECH SCI
CYC 1
PI FR 2589628 A 870507 (8724)* 9 pp
ADT FR 2589628 A FR 85-16314 851104
PRAI FR 85-16314 851104
AB FR 2589628 A UPAB: 930922

An alloy, for making rapid circuit-breakers, comprises an amorphous alloy A-B-(X)_n (n = 0 or 1) having a crystallisation temp. of at least 200-300 deg.C and an electrical resistivity of a few tens to a few hundreds of micro-ohm.cm.

Pref. the alloy is selected from Ni-Zr, Pd-Cu-**Si** and Ag-Cu-X (X = Mg, Al, Sn, Sb, **Si** or **Ge**). A circuit breaker made of the alloy is also claimed.

USE/ADVANTAGE - The alloy is used in wire or strip form for electrical fuses. It ruptures on crystallisation so that response time is short due to redn. of the pre-arc period (elimination of fusion and evaporation of metal) and elimination of the arc period.

0/1

L11 ANSWER 4 OF 7 WPIDS COPYRIGHT 1997 DERWENT INFORMATION LTD
AN 86-052395 [08] WPIDS
DNN N86-038348 DNC C86-022224
TI Silver based sliding contact alloy - contains copper and cadmium together with boron, silicon, germanium and/or titanium.
DC L03 M26 V04 V06
PA (TANI) TANAKA KIKINZOKU KOGYO KK
CYC 1
PI JP 61006227 A 860111 (8608)* 3 pp
ADT JP 61006227 A JP 84-127994 840621
PRAI JP 84-127994 840621
AB JP61006227 A UPAB: 930922
The sliding contact alloy comprises in wt.% 3-12Cu, 0.5-5Cd, 0.5-10 of at least one of B, **Si**, **Ge**, and Ti and the balance Ag.

Pref. part of the alloying elements is replaced by 0.01-0.5 wt.% Fe gp. element(s).

USE/ADVANTAGE - Used for contact segment on the peripheral of the small motor commutators as a substitute for Ag-Cd alloy. The alloy does not easily soften and has excellent wear resistance. There is only a small amt. of debris on sliding with brush contact

points, no noise, and a low and stable contact resistance. Cd increases hardness to improve wear resistance of Ag-Cd alloy, and the B, Si, Ge, and Ti, prevent softening and increase wear resistance.

1/1

L11 ANSWER 5 OF 7 WPIDS COPYRIGHT 1997 DERWENT INFORMATION LTD
AN 83-00721K [01] WPIDS

DNN N83-001667 DNC C83-000707

TI Silver brazing alloy for electron tube components etc. - contains copper together with silicon, lead and/or magnesium, and also phosphorus.

DC M23 P55

PA (TOJH) TOKURIKI HONTEN KK

CYC 1

PI JP 57187196 A 821117 (8301)* 4 pp

JP 62047119 B 871006 (8743)

ADT JP 57187196 A JP 81-72006 810513

PRAI JP 81-72006 810513

AB JP57187196 A UPAB: 930925

Alloy contains one or more of Si, Pb and Mg 0.05-0.5% and P 0.001-0.5% in a compsn. of Ag 50-95% and of Cu 5-50%. The alloy may also contain one or more of Ge, Mn and Ni. The surface roughness of the braze metal can be improved by adding the Ge, Mn or Ni. Alloy is used for brazing electron parts of the vacuum tube or like electric parts in a reducing gas atmosphere or vacuum at a temp. higher than the melting point of the alloy by 40 deg.C, and has good brazing properties, good formability, good fluidity when molten and ability to form a brazed zone exhibiting good surface smoothness.

L11 ANSWER 6 OF 7 WPIDS COPYRIGHT 1997 DERWENT INFORMATION LTD
AN 82-71099E [34] WPIDS

TI Silver alloy for dental use - contains palladium, copper, and germanium together with iridium, rhodium and indium etc..

DC D21 M26

PA (GCDE) GC SHIKA KOGYO KK; (SHIK-N) SHIKA KOGYO KK G C

CYC 1

PI JP 57114631 A 820716 (8234)* 4 pp

JP 62003220 B 870123 (8707)

ADT JP 57114631 A JP 81-725 810108

PRAI JP 81-725 810108; JP 85-106151 810108

AB JP57114631 A UPAB: 930915

Dental silver alloy, consists by wt. of Pd 15-35%, Cu 10-25%, Ge 0.1-5% and the balance/Ag, and alloy includes Ir and/or Rh 10-1000 ppm in total, one of In, Zn and Au less than 5%, two of them less than 5% in total, or all of them less than 5% respectively.

The new dental silver alloy is competitive in strength and other properties to conventional alloy of Au 12%, Pd 20%, Cu 18%, Zn 1%, In 1% and the balance Ag. The Ge restricts the alloy being heated or melted from being occluded with gas and contributes effectively as degassing agent to improve casting properties of the alloy.

L11 ANSWER 7 OF 7 WPIDS COPYRIGHT 1997 DERWENT INFORMATION LTD
AN 82-27415E [14] WPIDS

TI Alloy powder for dental silver amalgam - obtd. from silver alloy contg. tin, copper, germanium and zinc by crushing and atomising.

DC D21 M26 P53

PA (SHIK-N) SHIKA KOGYO KK G C

CYC 1

L12 ANSWER 1 OF 12 JAPIO COPYRIGHT 1997 JPO and Japio
AN 96-134581 JAPIO

TI PRODUCTION OF MAGNESIUM ALLOY

IN NINOMIYA RYUJI; KUBOTA KOHEI

PA MITSUI MINING & SMELTING CO LTD, JP (CO 000618)

PI JP 08134581 A 19960528 Heisei

AI JP 94-279521 (JP06279521 Heisei) 19941114

SO PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 96, No. 5

AB PURPOSE: To produce an Mg alloy having the desired mechanical properties by adding respectively prescribed amounts or less of alloying elements, such as Li and Be, so that the S orbital energy level and the molar fraction and the mechanical properties of the alloy satisfy the prescribed calibration curves.
CONSTITUTION: One or more alloying elements, selected from the group consisting of, by weight, .ltoreq.25% each of Dy, Tb, and Gd, .ltoreq.20% each of La, Ce, Pr, Nd, and Sm, .ltoreq.10% each of Al, Ca, Cu, Zn, Y, and Ag, .ltoreq.8.0% Li, .ltoreq.2.0% Si, .ltoreq.1.0% Zr, and .ltoreq.0.1% each of Be, Na, K, Ti, V, Cr Mn, Fe, Co, Ni, Ga, Ge, Nb, Mo, Cd, In, Sn, and Sb, is added to Mg. At this time, the addition of the alloying elements is done so that the S orbital energy levels Mk, determined with respect to Mg and respective alloying elements by a molecular orbital computing method, and the molar fractions of respective alloying elements and the prescribed mechanical properties Mp of the alloy satisfy the prescribed calibration curves. By this method, the composition of the Mg alloy can easily be determined from the desired mechanical properties.

L12 ANSWER 2 OF 12 JAPIO COPYRIGHT 1997 JPO and Japio
AN 95-300667 JAPIO

TI ALUMINUM ALLOY SINGLE CRYSTAL TARGET AND ITS PRODUCTION

IN HASEGAWA MASAHIRO; YASUDA HITOSHI; TAKAHASHI AKIHIKO

PA SUMITOMO CHEM CO LTD, JP (CO 000209)

PI JP 07300667 A 19951114 Heisei

AI JP 94-92321 (JP06092321 Heisei) 19940428

SO PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 95, No. 11

AB PURPOSE: To produce an aluminum thin film in which the concn. of the metallic elements to be added is uniform by specifying the concn. distribution of the metallic elements to be added of single crystals and specifying the length thereof.

CONSTITUTION: Aluminum alloy single crystals are constituted by adding Al having .gtoreq.99.9wt.% purity with total 0.1 to 3.0wt.% of one or more kinds selected from elements of the atomic number 3 to 83. In the diameter or longitudinal direction of the alloy single crystals, the concn. distributions of each metallic element to be added is regulated to .+-0.5%, and the length in the diameter or longitudinal direction is regulated to the range of 100 to 1500mm. Al is added with total 0.1 to 3.0wt.% of one or more kinds of metallic elements selected from elements of Ag, Au, Ca, Co, Cr, Cu, Fe, Ge, Hf, In, Li, Mg, Mn, Mo, Na, Nb, Ni, Si, Sn, Ta, Ti, V, W and Zr. Thus, the aluminum alloy single crystal target in which the crystal orientation is controlled can be obt'd.

L12 ANSWER 3 OF 12 JAPIO COPYRIGHT 1997 JPO and Japio
AN 95-290255 JAPIO

TI ELECTRODE MATERIAL FOR SPOT-WELDING ALUMINUM OR ALUMINUM ALLOY, ITS PRODUCTION AND METHOD FOR SPOT-WELDING ALUMINUM OR ALUMINUM ALLOY

IN MIYAUCHI MICHIO; SUZUKI SATORU; OKITA TOMIHARU; OKADA TOSHIYA

PA FURUKAWA ELECTRIC CO LTD:THE, JP (CO 000529)

are added to the Ag-Cu alloy consisting of 50-95% Ag and 5-50% Cu, and further, 0.005-1% one or more of Ge, Mn, and Ni are added to this Ag-Cu alloy, thus obtaining a silver solder. Si, Pb, and Mg are metal elements easy to combine with oxygen and deoxidize the silver solder in the course of production and use of the silver solder and prevent the soldering surface from being rough by gas discharge when the silver solder is solidified. Ge, Mn, and Ni make the metallic organization minute for solidification of the silver solder to make the surface smooth. The soldering strength of this silver solder is approximately equivalent to that of the conventional soldering material in respect to the basic capacity, and the spread area is reduced slightly but it is not a problem in the practical use.

L12 ANSWER 11 OF 12 JAPIO COPYRIGHT 1997 JPO and Japio
AN 82-114631 JAPIO
TI DENTAL SILVER ALLOY
IN MAMADA KOUICHI; ITO HISAYOSHI
PA G C DENTAL IND CORP, JP (CO 425313)
PI JP 57114631 A 19820716 Showa
AI JP 81-725 (JP56000725 Showa) 19810108
SO PATENT ABSTRACTS OF JAPAN, Unexamined Applications, Section: C, Sect. No. 130, Vol. 6, No. 2, P. 53 (19821020)
AB PURPOSE: To obtain a dental Ag alloy with superior physical properties and corrosion resistance by adding adequate amounts of Cu and Ge to an Ag-Pd alloy to improve the gas occlusion and casting defects.
CONSTITUTION: This Ag alloy consists of, by wt., 15-35% Pd, 10-25% Cu, 0.1- 5% Ge and the balance Ag or further contains an adequate amount of Ir, Rh, In, Zn or Au. The lower limit or more of Pd is required to maintain the prescribed discoloration limit, yet more than the upper limit of Pd raises the m.p. and makes melting difficult during dental casting. Cu is important in providing hardenability due to heat treatment, and precipitated PdCu₃ and PdCu phases provide strength and elasticity to the alloy, yet less than the lower limit of Cu does not show the sufficient effect. More than the upper limit of Cu deteriorates the corrosion resistance, and it produces oxide and deteriorates the castability remarkably when melting is repeated. Ge inhibits gas occlusion extremely and improves the castability by the deoxidation action, yet less than the lower limit of Ge is not effective, and more than the upper limit of Ge deteriorates the elongation of the alloy remarkably and makes working difficult.

L12 ANSWER 12 OF 12 JAPIO COPYRIGHT 1997 JPO and Japio
AN 82-035655 JAPIO
TI ALLOY POWDER FOR DENTAL SILVER AMALGAM
IN ITO HISAYOSHI; YOSHIDA BUNSAKU
PA G C DENTAL IND CORP, JP (CO 425313)
PI JP 57035655 A 19820226 Showa
AI JP 80-109886 (JP55109886 Showa) 19800812
SO PATENT ABSTRACTS OF JAPAN, Unexamined Applications, Section: C, Sect. No. 108, Vol. 6, No. 1, P. 59 (19820616)
AB PURPOSE: To obtain alloy powder for dental silver amalgam with superior characteristics by adding a specified amount of Ge to Ag, Sn and Cu as principal components, or further adding Zn, melting them, and carrying out pulverization.
CONSTITUTION: To an Ag alloy contg. 20-35wt% Sn and 7-25wt% Cu are added 0.1-5wt% Ge and 0-2wt% Zn, and they are melted. The molten metal is sprayed in a gaseous flow of nitrogen, or it is cast into an ingot, which is then cut, pulverized, sieved

to .gtoreq.300 mesh, and heat treated to prepare the titled alloy powder. When a dental amalgam alloy is manufactured using the alloy powder and mercury, a superior dental amalgam alloy causing no oxidation even under conditions in an oxidizing atmosphere is obtd..

of brazed metal of this alloy becomes very fine and the amount of gases released from the brazed metal when solidifying can be reduced by adding Si, Pb or Mg. The roughness of the surface of the brazed metal is also reduced.

FS CPI GMPI
FA AB
MC CPI: M23-A01; M26-B01; M26-B01C

L1 ANSWER 4 OF 5 WPIDS COPYRIGHT 1997 DERWENT INFORMATION LTD
AN 81-80793D [44] WPIDS
TI Silver based electrical contact - is eutectic alloy contg. silicon and/or germanium, pref. together with other metals.
DC L03 M26
PA (NITE) NIPPON TELEGRAPH & TELEPHONE CORP
CYC 1
PI JP 56119747 A 810919 (8144)* 8 pp <--
PRAI JP 80-21576 800225
IC C22C005-06; C22F001-14; H01H001-02
AB JP56119747 A UPAB: 930915

An electric contact material is prepared by internal oxidn. in a high pressure O2-contg. atmosphere of a eutectic Ag alloy containing Si and/or Ge 1-17 atom %. The Ag alloy may contain one or more of Au, Pt, Pd, Rh, Ru, Os and Ir 1-10 atom % in total. The Ag alloy may also contain one or more of Re, Ti, V, , Ta, Mo, Nb and Zr 1-5 atom % in total. The Ag alloy may also contain one or more of Fe, Co, Ni and Cu 1-5 atom % in total. The Ag alloy is hot or cold worked, and then heated to a temp. from 250 deg.C to the eutectic point in a high pressure O2-contg. atmosphere.

The electric contact material shows extremely stable contact resistance properties under conditions of low contact pressure and slight load for communication use, and also shows excellent resistance to fusion, corrosion and abrasion caused by spark discharge. The heating in the high pressure O2-contg. atmosphere assures complete internal oxidn. of the Ag alloy, so that the internally oxidised alloy does not deteriorate in properties even after being plastically deformed.

FS CPI
FA AB
MC CPI: L03-A01A; M26-B01; M29-D

L1 ANSWER 5 OF 5 WPIDS COPYRIGHT 1997 DERWENT INFORMATION LTD
AN 77-24286Y [14] WPIDS
TI Wear-resistant silver oxide system electrical contact compsn. - obt'd. by internal oxidn. of silver-indium-tin-copper-zinc alloy contg. one or more other given metals.

DC L03 M26 X12 X13
PA (TANI) TANAKA KIKINZOKU KK
CYC 1
PI JP 52023660 A 770222 (7714)* <--

PRAI JP 75-98947 750818
IC C22C005-06; H01B001-02; H01H001-02
AB JP52023660 A UPAB: 930901

The contact, for use in an electromagnetic switch, is formed by internal oxidn. of Ag-In-Sn-Cu-Zn alloy which contains (wt.%) 1-7 In, 1-7 Cu, 1-5 Sn, 1-4 Zn, and the rest of Ag, where the total of In, Cu, Sn and Zn is below 15. The alloy further contains 0.7 of at least one metal from Ca, Ce, Co, Fe, Ga, La, Al, Sr, Ti, Li, Mg, Ni, Mn and Ge.

The contact has high wear durability and high fusion resistance.

FS CPI EPI
FA AB
MC CPI: L03-A01A; L03-B04; M26-B01; M29-D